Section 2.8 Soils

12-month Issues

12-Soil-1 **Data Adequacy Deficiency –** Please submit a thorough discussion on the specific current and foreseeable future cumulative impacts related to erosion and sedimentation.

Data Adequacy Response – Section 8.4.4 of the AFC lists the foreseeable future growth trends in the City of San Joaquin, and Section 8.4.5 describes recent discretionary reviews by public agencies that would reflect new development plans.

As noted in those sections, and according to the City's General Plan, growth will occur in all areas of the City and within the City's sphere of influence. The City intends to annex areas within its sphere of influence within the next 20 years and has reserved land use designation that can be converted to urbanized uses based on population demands. The General Plan projects a 3 percent growth rate in population, but there are no significant residential or industrial developments planned, other than CVEC. The City of San Joaquin currently has the following buildings under construction:

- Gift Store (7,500 square-foot parcel)
- Auto Parts Shop (9,560 square-foot parcel)
- Storage Facility (11,250 square-foot parcel)
- Potential expansion of San Joaquin Health Center (undetermined size).

In addition to the commercial uses listed above, the City has approximately 55 housing units proposed or under construction citywide. Due to the prevailing soil conditions and flat terrain, the cumulative soil erosion effect of the projects listed above and CVEC would be insignificant.

Growth in Fresno County is to occur in currently urbanized areas, incorporated and unincorporated cities where infrastructure services are available. A search of the Fresno Bee did not produce additional results on reports for community development in the project vicinity.

With respect to erosion and sedimentation, the area is generally flat and not highly erodible. The primary development that affects soil use and loss is the intensive agricultural development throughout the central portion of Fresno County. Row crops and cotton are tilled once or twice a year, exposing large areas of soil to wind erosion. Dust is common and dust control practices are not typical of farming in this area.

The potential for erosion and soil loss from the project site, which will exercise dust control practices and will require a Stormwater Pollution Prevention Plan is likely to be much less than from existing agricultural practices in the region. The

project would contribute an immeasurably small amount of erosion and sedimentation when compared to the existing agricultural practices.

12-Soil-2 **Data Adequacy Deficiency –** Appendices 8.2 – B, 8.13 – A and Section 1.1 of the AFC indicate conflicting information regarding total existing acreage vs. the total amount of earth disturbance and permanent acreage altered by the CVEC. Please provide consistency throughout the AFC.

Data Adequacy Response – The project site is approximately 85 acres. Of this, 25 acres would be permanently converted to paved and industrial uses for the power block turbines, stormwater ponds, roads and appurtenant facilities. Some of the remaining 60 acres would be used for temporary construction laydown, and all of the 60 acres would be restored to pre-construction condition.

Project linears are estimated to require a maximum width of 75 feet, and a maximum length of 42 miles or 384 acres. Disturbance in this area would largely consist of trenching and backfilling the gas and water pipelines, vehicles driving over the earth surface and subsequent restoration to pre-construction conditions. The predominant land uses are road right-of-way, cotton fields, vineyards and orchards.

12-Soil-3 **Data Adequacy Deficiency –** Provide legible mapping that identifies all linear facilities (i.e., domestic water and sanitary sewer lines) with respect to the soil types to be impacted during construction and operation of the project.

Data Adequacy Response –Figure 8.9-1a shows the project site and surrounding area for a large distance mapped as "Mk." The scale of Figure 8.9-1a makes it difficult to show both the reclaimed water supply (21 miles) and the domestic water supply (1 mile) on one figure. Figure 2.2-1 shows the linear features, including sewer and domestic water supply lines serving the site. As shown in that figure the domestic water line runs under or adjacent to existing roads and industrial areas. The domestic sewer line runs under or near Cherry Lane through the soil type mapped as "Mk."

12-Soil-4 **Data Adequacy Deficiency –** Figure 8.9-2 "Important Farmland Mapping" does not show the types of farmland for the entire natural gas pipeline route west of Fresno Slough. Also, Section 8.9.3.5 indicates that this mapping is not covered east of the Fresno slough. Please provide further clarification.

Data Adequacy Response – The soil survey for this area was completed in the 1950s before appropriate data were collected to make a determination of "prime farmland." The NRCS advises that new soil maps are scheduled to be completed in 2004, but until then there is no designation of important farmlands beyond the limits shown in the AFC.

12-Soil-5 **Data Adequacy Deficiency –** As per the NRCS Official Soil Series Descriptions website, the Playas soil series does not exist. Please refer to a hardcopy of the soil survey and provide the appropriate soil series (Pl) accompanied by a summary of its properties.

Data Adequacy Response – According to the Soil Survey, Eastern Fresno County, USDA SCS, October 1971, the "Pl" soil mapping unit as Playas is correct. A copy of the description for "Playa" is attached to this response (see Attachment 12-Soil-5). The problem may be that Playa actually refers to a hydrologic surface feature (similar to the example of a vernal pool) but not an inactive soil series. Because it is not a soil series per se, it does not have the soil features such as depth to bedrock that are summarized for other soil types.

12-Soil-6 **Data Adequacy Deficiency –** It appears that the data provided for the Merced Soil Series (90A, p.8.9-5) differs from the data for the Merced Soil Series on p. 8.9-6. Please provide further clarification.

Data Adequacy Response –Table 8.9-2 attempts to report clearly and without interpretation or misrepresentation the information provided in the Fresno County Soil Surveys. As evident in the references and figures, western Fresno County was surveyed in 1950 and eastern Fresno was surveyed in 1971. The differences in characteristics reported in Table 8.9-2 reflect the information in those source documents. The standards for soil reporting and description have not been static during these 20 years. New mapping of western Fresno County is expected in 2004.

12-Soil-7 **Data Adequacy Deficiency –** Please refer to Appendix B (g) (15) (A) (i) [i.e., 12-Soil-6].

Data Adequacy Response –As noted above, the descriptions of the Merced Series varies between documents. We have attempted to report the information as represented by the NRCS.

Attachment 12-Soil-5

Playa Definition

[Insert File: Attach 12-Soil-5]

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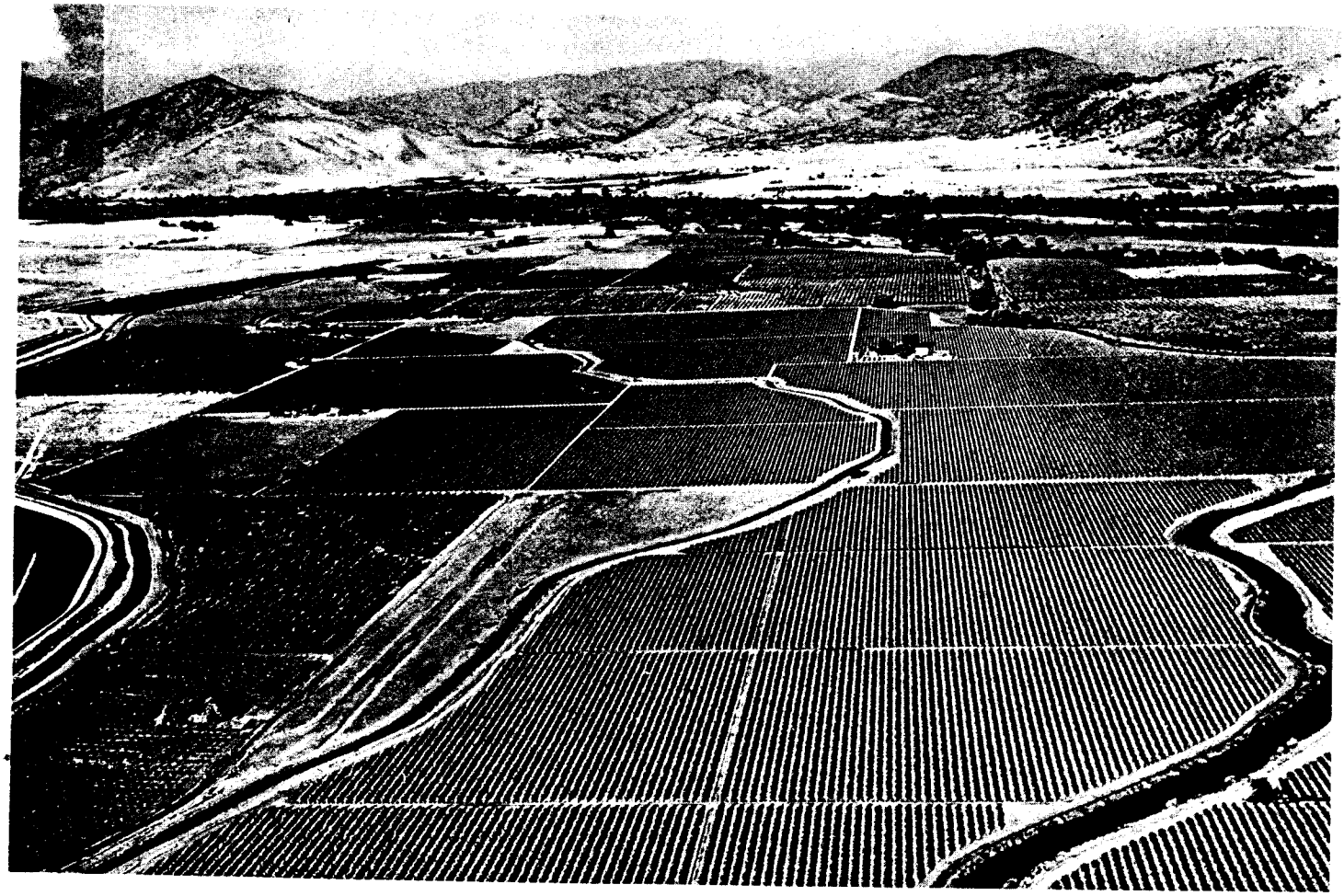
Issued October 1971

SOIL SURVEY

EASTERN FRESNO AREA

California



UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with
CALIFORNIA AGRICULTURAL EXPERIMENT STATION

Prepared

This complex has been used for many years as alkali pasture. It has recently been partly leveled, irrigated by sprinkler, and planted to cotton. Plant growth has been spotty. The Piper soil is readily reclaimable, but the Rossi soil is difficult to reclaim. Capability unit IVs–6 (17); range site not assigned; natural land type B1–2a and B2–2a; Storie index rating 30.

Pits (Pk) consists of open excavations from which soil material has been removed for use in construction or for earthfill and embankments. Most areas of this land type are pits dug below the general land surface, and these range in depth from about 5 to 20 feet. However, some are excised parts of terrace fronts or of side slopes of small hills. Most of the pits mapped are now idle. Some are basins for small seasonal ponds; others are sites for trash disposal.

Gravel pits are located mainly along the San Joaquin River and the Kings River. Most of these are in use and increasing in size as the sand and gravel are excavated. The pits used for aggregate sources in the construction of the Friant and Pine Flat Dams are now idle or have been converted to ponds and lakes for recreational use.

Borrow pits for earth materials are widely scattered in the San Joaquin Valley. These pits have provided materials ranging in texture from sand to clay loam for use in road building, for earth dam or levee construction, as fill for building sites, and for farming purposes.

The total acreage of Pits is small. A quarry near Piedra used for serpentine rock materials has been included. A standard mapping symbol is used to locate pits or quarries too small to be delineated separately. Capability unit VIIIw–4 (17); range site not assigned; natural land type A14; Storie index rating 5.

Playas (Pl) consists of small, flat-bottomed depressions, generally barren of vegetation and irregular in outline. They are widely distributed throughout the basin rim area and are intricately associated with saline-alkali affected soils. These depressions, or playas, range in size from about 2 to 20 acres and lie from 2 to 8 feet below the surface of the surrounding areas. They formed either from wind scouring or from the braiding of small alluvial stream ridges. The side slopes of the depressions, not mapped within areas of playas, are generally short and moderately sloping. Seasonally, these depressions become shallow ponds from surface runoff. The water remains until it evaporates.

The light-colored, generally white surface of a dry playa is normally level and smooth. Playas contain sediments, mainly strongly saline-alkali affected, that have accumulated in the depressions from local wash. These sediments are clay loam, silty clay loam, silty clay, or clay that in places are interbedded with thin layers of fine sand. The sediments range from 2 to 4 feet in thickness; in places they overlie coarse-textured material or firmly compacted layers of silt. When dry, the bare surface cracks into a reticulated pattern of polygonal blocks. The cracks are not wide, and when the blocks are lifted, they subdivide horizontally into platy fragments. The uppermost ones generally show a strong vesicular porosity. In places the surface is puffy from salt accumulation.

The smaller playas are generally bare of vegetation. The larger ones may include low mounds or ridges of fine sandy material accumulated by wind. These become somewhat stabilized by a sparse growth of saline-alkali tolerant plants. In many places, tiny erosional patterns are present on these mounds and on the side slopes of the depressions.

Many playas have been filled during leveling operations for reclamation of surrounding areas. Unless deeply ripped and mixed, these areas will act as impermeable subsurface lenses, making it very difficult to reclaim the overlying soil material. Where water is available, some playas have been used as ponds to attract migratory game birds. It has been suggested that the smooth hard surfaces of some of the larger areas would make excellent tracks for cart races, thus giving the playas some additional value for recreational use. Capability unit IVs–6 (17); range site not assigned; natural land type B17; Storie index rating 5.

Pollasky Series

The Pollasky series consists of well-drained soils that formed in place from the weathering of softly to moderately consolidated granitic sediments. At one time these sediments were overlain, at a moderate depth, by material laid down on alluvial terraces. Erosion has worn away the overlying material and exposed the granitic sediments to weathering and soil formation. In the process, an undulating to hilly relief has been formed that is smooth and rounded. Slopes are 2 to 30 percent.

These soils are widely distributed throughout the low alluvial terraces in the eastern part of the San Joaquin Valley. The largest acreage of these soils is located near the secondary valleys of the rivers.

Pollasky soils are at elevations of 300 to 500 feet. The average annual precipitation ranges from 11 to 15 inches, the average annual temperature is about 62° F., and the average growing season ranges from 250 to 275 days. The natural vegetation consists of annual grasses and forbs.

In a typical profile, the surface layer is brown sandy loam about 8 inches thick. This layer overlies a layer of slightly acid, pale-brown sandy loam about 26 inches thick. At a depth of 34 inches is light yellowish-brown sandy loam that is neutral. Light-brown or light yellowish-brown to very pale brown, moderately consolidated, sandy granitic sediments are at a depth of about 39 inches.

The Pollasky soils are used mainly for dryfarmed grain or for grazing. Where irrigation water is available, they are used for vineyards, some fruit trees, and field crops. Irrigation water is available mainly from wells. A part of the acreage, near Friant and north and east of Clovis, is in an area where the supply of ground water is limited.

Representative profile in a remnant of a natural area in a dryfarmed district, under a cover of annual grasses and forbs, on a northwest slope of 15 percent